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Abstract

PURPOSE:To epitaxially grow an atomic layer of good quality using a small quantity of raw gas by enhancing the reactive efficiency of the raw gas by introducing a catalyst into a growth device.
CONSTITUTION:A substrate 3 is heated up using a high frequency heater 4. After a quartz reaction tube 1 has been purged by feeding hydrogen gas into it through a valve 7, (CH3)3Ga is vaporized using a bubbler 8, and the (CH3)3Ga is fed into the quartz reactor tube 1 through a switching valve 5. Then, after the quartz reaction tube 1 has been purged by feeding hydrogen gas again, AsH3 is fed through a switching valve 6, and the catalyst 11 introduced into a growth device is heated up using a power source 12. As a result, the partial contact of the AsH3 to be fed as the raw material of arsenic, is accelerated by a catalytic action, and the feeding efficiency of arsenic can be improved. Accordingly, an atomic layer can be grown by a little feeding quantity of AsH3.